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ABSTRACT

An approach to the problem of providing social awareness experiences to undergraduate engineering students is provided in this paper. Specifically, this report lists some of the developments surrounding the inception of a social fraternities and sororities program at the University of Missouri-Rolla and events leading to these organizations doing social work in St. Louis. Originally started as a community improvements council, an organization of all sororities and fraternities, the collective efforts of all the groups have earned citations from the governor and legislature. (CP)

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SOCIAL AWARENESS AND THE ENGINEERING STUDENT

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During the late 1960's and early 1970's there arose in the public a loud, if not large, criticism that engineers possessed tunnel vision with respect to human needs. It was charged that engineers and, by implication, engineering educators, were infinitely more concerned with products and profits than with the impact their technology breakthroughs were making on society. Engineers were listed among the perpetrators of air and water pollution, slum generation, and ecological degradation. This charge is, of course, not wholly without foundation. Like other segments of our society, engineers in general were not attuned to the nontechnical consequences of their profession.

Efforts to develop in engineering students awareness of the sociological and ecological repercussions of their endeavors have taken many forms. Courses taught by humanists and sociologists are now available. Environmental impact statements are being required in senior level design courses. Team teaching, often interdisciplinary within departments or utilizing both a sociology and an engineering professor is providing humanities and engineering students insight to both sides of the social problems.

However, a major problem with such in-curricula courses is the basic fact that the engineering program provides little room for such "frills". At the University of Missouri-Rolla, the engineering program consists of 132 semester credit hours. Of these only 6 are unrestricted electives. This fact has led to another approach to providing the much needed social awareness education for the UMR students.

Under the guidance of Dr. Fred Lamar, formerly Protestant Campus Minister at UMR, now University Chaplain at DePauw University, UMR has developed a unique program of social action-social awareness as off-campus, extra curricular activities. The program, under the United Ministries in Higher Education (UMHE) banner, as developed, has four vehicles through which student involvement is generated: 1) classical campus student religious groups (Wesley, Newman, etc.); 2) student service organizations (Theta Tau, Intercollegiate Knights, Circle K, etc.); 3) student professional societies (American Society of Civil Engineers, American Institute of Chemical Engineers, etc.); and 4) a social fraternities and sororities program. This paper will outline the fourth program.

In the spring of 1966, a group of twenty-five University of Missouri-Rolla students went into the St. Louis inner city to study the problems of the inner city poor. Their campus chaplain arranged four days of sit-down and listen seminars for engineering students who had been doing that all semester. At the end of the first day the students had had their fill of sitting and listening. They were turned on by the problems discussed, filled with ideas and ready to put their ideas into action. In short, the engineering students were reacting as they were taught; as problem solvers and activists, not passivists. During the next three days, the students surveyed building code violations in the Sarah-Page area, built a stage for a Head Start center in the Goodfellow-Wells

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community and completed a housing inspection in the Easton-Belle neighborhood.

That trip was followed the next month by UMR's first student work project--a repair program at Cabanne Methodist Church. The next fall two church camps were added to the list of service projects, and the following spring another mission church was repaired. Also, the 1966-67 school year saw the organization of the Chaplain's Fraternity Program. The first participating houses were Kappa Alpha, Lambda Chi Alpha, Acacia, Pi Kappa Phi, and Sigma Phi Epsilon.

During the following school year the program increased. More projects and house discussion programs were organized, and the fraternities organized themselves as the Community Improvements Council. The organization was officially accepted by the University of Missouri-Rolla in the spring of 1968 as Gamma Alpha Delta.

The years 1968-70 were years of great growth for GAD. The organization grew to eighteen fraternities (Acacia, Alpha Epsilon Pi, Alpha Phi Alpha, Beta Sigma Psi, Delta Sigma Phi, Delta Tau Delta, Kappa Alpha, Kappa Sigma, Lambda Chi Alpha, Phi Kappa Theta, Pi Kappa Alpha, Pi Kappa Phi, Sigma N[illegible] Sigma Phi Epsilon, Sigma Pi, Theta Chi, Theta Xi, and Triangle).

During this period the organization averaged placing 1000 men per year in service projects throughout the State of Missouri and as far away as the Mississippi Gulf Coast. Projects included engineering work at three church camps, the rehabilitating of 18 buildings in St. Louis for use as Head Start, nursery day-care, tutorial, and community centers, and the initiation of home repair and woodchopping programs in Rolla.

The projects brought the organization honor and the funding for its first great challenge. The Danforth Foundation and the Department of Housing and Urban Development invited GAD to totally rehabilitate one block of deteriorating housing in the St. Louis Inner City and to construct a series of vest-pocket parks in the Tandy-Cody Brilliant district of St. Louis. Both projects were successfully completed. In the midst of these efforts, the Pruitt-Igoe housing complex suffered a total mechanical failure during the winter of 1970. The buildings froze, water mains broke in the walls, causing the water to cascade down the stairwells, which became ice coated. The water reached the basement of the structures shorting out electricity service, and eliminating heat, water, sewage and elevator service to buildings which then housed 25,000 persons.

After enduring two days of desperation, Mr. Richard Fulton, president of the St. Louis Junior Chamber of Commerce and Mr. Elmer Hammonds, president of the Pruitt-Igoe Tenants' Council called for UMR student help. For an entire week (the week before final exams) students from the campus poured into St. Louis. UMR students restored the utilities to the buildings and led the rescue operations which were responsible for saving many lives.

As a result of these outstanding efforts, awards were showered on the program. Gamma Alpha Delta was recognized by the St. Louis Urban League, St. Louis Human Development Corporation, Shrine Clubs of Missouri, the White House Committee on Student Unrest, the Missouri Junior Chamber of Commerce, the United States Junior Chamber of Commerce, the National Center for Voluntary Action, the Easton-

Taylor Gateway Center, the Pruitt-Igoe Tenants' Council, and many religious bodies for its outstanding record of service.

After a quiet period, during the years 1971 and 1972, Gamma Alpha Delta is on the move again. In the spring of 1972, it received the Camp Wonderland award for outstanding service to mentally and physically handicapped children, and the CURE citation for its work with the nation's number one recycling center. In the fall of 1973, in spite of declining University enrollment, the society undertook its largest single number of projects up to that time and succeeded in setting a record both in number of projects and in student volunteers for one semester. The newly founded sororities of Kappa Delta and Zeta Tau Alpha were accepted as members of GAD.

In 1974, the projects undertaken by GAD again increased in size and scope. Among those organizations receiving help were: Rolla Cerebral Palsy School, McGinnis Youth Center, Clifton Heights Recycling Center, Halfway Houses, St. Vincent Convent, Rolla Youth Center, and Cochran Housing Project. All in all, in the 1974-75 school year, 450 Gamma Alpha Delta members have given over 6000 hours of service to dozens of local agencies. According to data collected by ACTION, GAD is among the top 10% of all college volunteer programs. This is exceptional when tempered by the fact that UMR has an enrollment of less than 4000 students, the majority of which are engineering or physical science majors.

The stated goals of Gamma Alpha Delta are:

a. To strengthen fellowship in the house.

b. To develop better contacts between houses, the University and the surrounding community.

c. To assist the fraternity in developing the well-rounded individual who will be capable of assuming a leadership role in society upon graduation.

d. To offer the fraternity worthwhile opportunities for service in society.

e. To help the fraternity develop a helpful "public image".

The methods for achieving these goals are threefold: First, evening seminars are held wherein a faculty member or other person is invited to discuss some issue of relevance to the fraternity, to personal, social or religious problems faced by the membership of the chapter. Secondly, the fraternity participates in service projects in and around Rolla as a unit. Finally, an organized public relations program is carried out on local and state-wide newspapers, radio and television to explain the worthwhile work of the UMR fraternity system.

The individual units select a major and a minor project to be conducted each school semester. A major project generally requires full participation of the unit for a two-day weekend. The project is pre-engineered by the unit's GAD representative and GAD's student project coordinator. During the pre-engineering, decisions are made as to exactly what the goals of the project will be, what

tools are required, and where will housing and meals be obtained. The agency receiving the assistance ia asked to provide transportation costs and meals for the student volunteers. UMHE provides the tools for the project from their rather extensive tool supply.

On the evening before the start of the project (usually Saturday), the tools are picked up and the students arrive at the site. Work commences the next morning and continues through Sunday. Whenever possible, effort is made to obtain participation of the people for whom the project is being done. This has two goals. First the people are taught the skills necessary to allow them to make their own repairs in the future. Secondly, it creates a working dialogue between the students and the people such that both can benefit.

Following the completion of the project a group discussion session is held either at the project site or at the unit's house in Rolla. This session is led by Gamma Alpha Delta's chaplain, Father Don Lammers. The discussion focuses on the inter-personnel lessons to be learned from such an experience.

The final step in the project is the preparation of a Project Report. This report relates the work done during the project and provides information for news releases to be distributed throughout the state. The publicity provides tangible rewards for the unit, and for the Greek system in general.

A minor project is one that requires less than full unit participation. These can be such as a single survey party for a church camp or helping to load a recycling center truck.

In addition to service projects, Gamma Alpha Delta promotes in-house programs for the individual fraternities and sororities. Authoritative speakers are invited to speak on issues of student concern. These programs include such diverse topics as: engineers' social responsibility, Watergate, professional ethics, sex and marriage, and the engineer and ecology.

One measure of the success of the Gamma Alpha Delta program can be

a. Over $18,000 in outside funding for Gamma Alpha Delta activities.

b. Citation of Gamma Alpha Delta by Missouri State Governor Christopher Bond and U.S. Representative Richard Ichord for their service projects.

c. Citation of Gamma Alpha Delta by a resolution by the Missouri House of Representatives of their outstanding contribution to the citizens of Missouri.

d. Gamma Alpha Delta designation for the Camp Wonderland Award by the Missouri Jaycees for their service toward the camp for physically and mentally retarded youngsters.

Perhaps an even better measure of the success of Gamma Alpha Delta is the continual growth of both its membership and the requests for assistance it receives. The students who participate in the individual projects are exposed to

a part of life usually unfamiliar to them. Although their work requires many hours and they receive no pay, they return again and again to provide continual assistance to the underpriviledged. Upon graduation, those students who have participated in Gamma Alpha Delta or any of the other service areas have an acute knowledge and understanding of how they, as professional engineers, can and should use their skills toward providing a better world for humanity.